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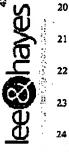
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Remarks for the "RESPONSE TO FINAL OFFICE ACTION DATED 7/7/2005 UNDER 37 C.F.R. § 1.116"

Applicant respectfully requests entry of the following remarks and reconsideration of the subject application. Applicant respectfully requests entry of the amendments herein. The remarks and amendments should be entered under 37 C.F.R. §1.116 as they place the application in better form for appeal, or for resolution on the merits.

Applicant respectfully requests reconsideration and allowance of all of the claims of the application. Claims 1-4, 7-10, 16-22, 26-28, 33 and 47-55 are presently pending. Claims amended herein are 1, 3, 4, 7, 9, 16, 18-22, 28, 47, 49, 51 and 54. Claims withdrawn or cancelled herein are 5, 6, 11-15, 23-25, and 29-32. New claims added herein are none.

Formal Claim Rejections

Claim Rejections under §101

The Office rejects claims 1, 3-7, 9, and 11-16 under USC § 101, which reads:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The Office indicates that these claims are directed to non-statutory subject matter. Applicant respectfully traverses the rejections of these claims.

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The Office indicates the following:

8. Claims 1,3-7,9, and 11-16 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claimed subject matter falls to disclose of statutory subject matter which is just software alone and of itself. The applicant is suggested to amend the daims to either incorporate the subject to be embodied on a computer readable medium or to require the implementation of the use of technology whereby in claim 2, it is recited of encoding that requires the use of technology in order to put something into computer code.

Applicant submits that this rejection is most with regard to claims 5, 6, and 11-15 because claims 11-15 have been withdrawn herein from consideration.

With regard to claims 1, 3, 4, 7 and 16, Applicant submits that the subject matter of each of these rejected claims is directed towards a "process" (i.e., a "method"). The subject matter of each of these rejected claims is directed towards a statutorily allowed process.

Applicant submits that method claims, like those at issue here, fall within the "process" category of the four enumerated categories of patentable subject matter in §101. Therefore, such method claims are statutory.

Accordingly, Applicant asks the Office to withdraw its rejection of these claims.

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Substantive Claim Rejections

Claim Rejections under §§ 102 & 103

The Office rejects all of the pending claims under §102 and/or §103. For the reasons set forth below, the Office has not shown that cited references anticipate (under §102) the rejected claims. For the reasons set forth below, the Office has not shown made a prima facia case showing that the rejected claims are obvious (under §103). Accordingly, Applicant respectfully requests that the rejections be withdrawn and the case be passed along to issuance.

The Office's rejections are based upon the following references:

- Fridrich: Fridrich et al., US Patent No. 6,094,483 (issued July 25, 2000); and/or
- Wakasu: Wakasu, US Patent No. 6,259,801 (issued 7/10/2004).

Overview of the Application

The Application describes watermarking technology for inserting and detecting watermarks in signals, such as a music clip. The watermark identifies the content producer, providing a signature that is embedded in the audio signal and cannot be removed. The watermark is designed to survive all typical kinds of processing, including compression, equalization, D/A and A/D conversion, recording on analog tape, and so forth. It is also designed to survive malicious attacks that attempt to remove or modify the watermark from the signal, including changes in time and frequency scales, pitch shifting, and cut/paste editing.

In one described implementation, a watermarking system employs chess spread-spectrum sequences (i.e., "chess watermarks") to improve the balance of

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positive and negative chips in the watermarking sequences. The balance is not imposed in an orderly fashion, which might make the watermark sequence more easily detectable to an attacker, but in a pseudo-random fashion. In that way, better sequence balance is achieved while preserving its randomness for an attacker without knowledge of the keys.

In another described implementation, a watermarking system employs an energy-level trigger to determine whether to skip encoding of a portion of a watermark within a given time span of an audio clip. If a large discrepancy in energy levels exists over a given time frame, then the frame is not watermarked, to avoid audible time-dispersion of artifacts due to spectral modifications (which are similar to "pre-echo" effects in audio coding). In another described implementation, a watermarking system begins encoding of a watermark at a variable position after the beginning of an audio clip.

Cited References

The Office cites Fridrich as its primary references in its anticipation- and obviousness-based rejections. The Office cites Wakasu as its secondary reference in its obviousness-based rejection.

Fridrich

Fridrich describes a technology for encryption that features the steps of first encrypting a message and then hiding (embedding) it within a digital image carrier. This is accomplished by only slightly changing the gray levels of the

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image carrier. The changes are imperceptible to the human eye, because they appear as random thermal noise that is commonly present in digitized images.

Wakasu

Wakasu describes a technology for providing an electronic watermark data inserter and detector where, even when plural electronic watermark data are inserted into an image, the electronic watermark data can be inserted without negation each other, and at the time of detection, the electronic watermark data can be detected properly.

In Wakasu's method for inserting identification data (electronic watermark data) according to the present invention, an image is frequency-transformed for each block of j×k pixels (where j and k are natural numbers), and when the electronic watermark data are inserted into the frequency components transformed, the electronic watermark data are inserted for each block after the kinds of the electronic watermark data to be inserted are changed, so that the electronic watermark data are inserted without negation each other and detected for each block.

More particularly, an electronic watermark insertion position table is provided indicating which kind of electronic watermark data is inserted into which block in an image, and an applicable electronic watermark data is inserted into the area which is shown in the insertion area table. When the electronic watermark data is detected, the electronic watermark extraction position table similar to that when inserted is used to detect the electronic watermark data.

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In Wakasu, when a plurality of electronic watermark data are inserted into an image, different electronic watermark data are inserted into for each block, so that the electronic watermark data can be inserted without interference of the different electronic watermark data and negation each other, and also the electronic watermark data can be detected properly even when a plurality of electronic watermark data are embedded.

Anticipation Rejections

Based upon Fridrich

The Office rejects claims 1-3, 5-12, 14-23, 25-29, 31-33 and 47-55 under USC § 102(e) as being anticipated by Fridrich. Applicant respectfully traverses the rejections of these claims. Based on the reasons given below, Applicant asks the Office to withdraw its rejection of these claims.

More particularly, Applicant submits that in light of the amendments herein, these rejected claims are not anticipated by Fridrich.

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25-35 and col. 3, Ilnes 59-62).

Claims 1-4, 7-10, 16-22, 26-28, and 33

These claims (or their base claim from which they depend) have been amended to incorporate the concept of "absolute-chessboarding" or "absolute-unchessboarding," which was introduced originally by claims 6, 15, 26, and 32. For example, as amended, claim 1 describes absolute-chessboarding in this manner:

...absolute-chessboarding comprises adjusting successive discrete values of the information pattern so that the successive discrete values differ from immediately adjacent discrete values

Applicant submits that Fridrich does not disclose the concept of "absolutechessboarding," as recited in these claims (1-4, 7-10, 16-22, 26-28, and 33). In its rejection of claims 6, 15, 26, and 32 (which originally introduced language directed towards absolute-chessboarding), the Office indicated the following on p. 5 of the Action:

As per claims 6,15,26,32, and 48, Fridrich et al teaches of a chaotic map (chessboard) produces a random looking image of pixels (discrete values) wherein the pixels (discrete values) are alternated by color (absolutely chessboarded)(col. 1, lines,

Applicant respectfully disagrees with the Office's interpretation of the cited portions of Fridrich. The cited portions does not disclose the "pixels (discrete values) are alternated by color (absolutely chessboarded)." Instead, Fridrich discloses using a portion of color representation value (e.g., the least significant

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bit) to carry a steganographic message. However, Applicant submits that this is not equivalent to absolute-chessboarding.

More particularly, these cited portions do not disclose absolutechessboarding as recited in these claims (e.g., "adjusting successive discrete values of the information pattern so that the successive discrete values differ from immediately adjacent discrete values" from claim 1). Therefore, Applicant submits that Fridrich does not disclose "absolute-chessboarding" or "absolute-unchessboarding," as recited in these claims.

As shown above, Fridrich does not disclose all of the claimed elements and features of these claims. Accordingly, Applicant asks the Office to withdraw its rejection of these claims.

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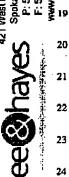
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As amended this claim now reads:

receiving the information pattern of multiple discrete values, wherein each discrete value of the information pattern is represented by a defined set of multiple consecutive blocks, wherein each consecutive block within a defined set includes its representative discrete value;

chessboard encoding the discrete values of the information pattern to produce chessboarded discrete values, wherein chessboard encoding comprises-adjusting-the-discrete-values in-accordance with-a-defined pattern-so that the representative discrete values in the consecutive blocks of at least one defined set of the multiple discrete values differ from adjacent representative discrete values in the consecutive blocks of the same defined set.

Applicant submits that Fridrich does not disclose "chessboard encoding" of discrete values of an information pattern, as recited in the claims.

More particularly, Fridrich does not disclose "each discrete value of the information pattern is represented by a defined set of multiple consecutive blocks, wherein each consecutive block within a defined set includes its representative Furthermore, Fridrich does not disclose production of discrete value." chessboarded discrete values so that "the representative discrete values in the consecutive blocks of at least one defined set of the multiple discrete values differ from adjacent representative discrete values in the consecutive blocks of the same defined set."

As shown above, Fridrich does not disclose all of the claimed elements and features of the claim. Accordingly, Applicant asks the Office to withdraw its rejection of this claim.

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Claims 48-50

These claims ultimately depend upon independent claim 47. As discussed above, claim 47 is allowable.

In addition to its own merits, each of these dependent claims is allowable for the same reasons that its base claim is allowable. Applicant submits that the Office withdraw the rejection of each of these dependent claims because its base claim is allowable.

Claims 51

As amended this claim now reads:

receiving the information pattern of multiple discrete values, wherein each discrete value of the information pattern is represented by a defined set of multiple consecutive blocks, wherein each consecutive block within a defined set includes its representative discrete value;

generating a pseudorandom pattern based upon a pseudorandom number generator (PRNG) and a key;

chessboard encoding the discrete values of the information pattern to produce chessboarded discrete values, wherein chessboard encoding comprises adjusting ene or more of the discrete values the representative discrete values in the consecutive blocks of at least one defined set of the multiple discrete values in accordance with the pseudo-randomly generated pattern.

Applicant submits that Fridrich does not disclose "chessboard encoding" of discrete values of an information pattern, as recited in the claims.

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More particularly, Fridrich does not disclose "each discrete value of the information pattern is represented by a defined set of multiple consecutive blocks, wherein each consecutive block within a defined set includes its representative discrete value." Furthermore, Fridrich does not disclose production of chessboarded discrete values so that "the representative discrete values in the consecutive blocks of at least one defined set of the multiple discrete values in accordance with the pseudo-randomly generated pattern."

As shown above, Fridrich does not disclose all of the claimed elements and features of the claim. Accordingly, Applicant asks the Office to withdraw its rejection of this claim.

Claims 52-55

These claims ultimately depend upon independent claim 51. As discussed above, claim 51 is allowable.

In addition to its own merits, each of these dependent claims is allowable for the same reasons that its base claim is allowable. Applicant submits that the Office withdraw the rejection of each of these dependent claims because its base claim is allowable.

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Obviousness Rejections

Lack of Prima Facie Case of Obviousness (MPEP § 2142)

Applicant disagrees with the Office's obviousness rejections. Arguments presented herein point to various aspects of the record to demonstrate that all of the criteria set forth for making a *prima facie* case have not been met.

Based upon Fridrich and Wakasu

The Office rejects 4, 13, 24, and 30 under USC § 103(a) as being unpatentable over Fridrich as modified by Wakasu. Applicant respectfully traverses the rejections of these claims. Applicant asks the Office to withdraw its rejection of these claims.

These claims ultimately depend upon independent claims 1, 9, 22, and/or 28. As discussed above, these claims are allowable.

In addition to its own merits, each of these dependent claims is allowable for the same reasons that its base claim is allowable. Applicant submits that the Office withdraw the rejection of each of these dependent claims because its base claim is allowable.

Dependent Claims

In addition to its own merits, each dependent claim is allowable for the same reasons that its base claim is allowable. Applicant submits that the Office withdraw the rejection of each dependent claim where its base claim is allowable.

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Conclusion

All pending claims are in condition for allowance. Applicant respectfully requests reconsideration and prompt issuance of the application. If any issues remain that prevent issuance of this application, the Office is urged to contact the undersigned attorney before issuing a subsequent Action.

By:

Dated: 9705

Respectfully Submitted,

Kasey C. Christie Reg. No. 40559 (509) 324-9256 x232 kascy@leehayes.com www.leehayes.com

Serial No.: 09/614,660 Atty Docket No.: MS1-570us RESPONSE TO FINAL OFFICE ACTION DATED 7/1/2005 UNDER 37 C.F.R. § 1.116